

CLAIMS

What is claimed is:

1. A computerized method for determining the prospective profitability and productivity of a licensed professional, the method comprising the steps of obtaining first data concerning a selected licensed professional from at least one source of said first data, obtaining historical data concerning a plurality of licensed professionals from at least one source of said historical data, identifying at least one external data source including variables predictive of at least one of profitability and productivity of said licensed professionals, normalizing said historical data using actuarial transformations to generate working data, calculating a profitability ratio associated with each of said plurality of licensed professionals based on said working data, calculating a cumulative ratio associated with said external data source variables based on said working data, identifying statistical relationships between said cumulative ratio and said external data source variables, selecting individual ones of said external data source variables based on statistical significance, creating a statistical model utilizing said selected ones of said external data source variables to yield an overall prediction of at least one of profitability and productivity of said licensed professionals, and generating a score for said selected licensed professional indicative of at least one of profitability and productivity using said statistical model.
2. The method according to claim 1, wherein individual ones of said external data source variables each have at least two values.
3. The method according to claim 1, wherein said at least one source of first data includes government databases.
4. The method according to claim 1, wherein said at least one source of historical data includes at least one of government databases, industry organization databases and internal company databases.

5. The method according to claim 1, wherein said at least one external data source includes at least one of government databases and proprietary databases of independent data providers.

6. The method according to claim 1, further comprising the step of storing said first data, said historical data and external data from said at least one external data source in a relational database.

7. The method according to claim 1, wherein said working data are associated with said at least one external data source to identify said external data source variables predictive of at least one of profitability and productivity of said licensed professionals.

8. The method according to claim 1, wherein said step of calculating a cumulative ratio associated with said external data source variables based on said working data is effected for a defined group of said licensed professionals.

9. The method according to claim 8, wherein said defined group of said licensed professionals includes those licensed professionals who fall within a preselected range of at least one of profitability and productivity.

10. The method according to claim 8, wherein said step of identifying statistical relationships includes statistically analyzing said cumulative ratio associated with said defined group of said licensed professionals and said external data source variables.

11. The method according to claim 1, wherein said step of selecting individual ones of said external data source variables based on statistical significance is performed by at least one of an actuary and statistician.

12. The method according to claim 1, further comprising the steps of examining said external data source variables for cross-correlation, and discarding at least

one of said external data source variables from any set of cross-correlated external data source variables.

13. The method according to claim 1, wherein said step of creating a statistical model utilizing said selected ones of said external data source variables to yield an overall prediction of at least one of profitability and productivity of said licensed professionals includes allocating said historical data and external data from said at least one external data source into data subsets including at least one of a training data subset, a test data subset and a validation data subset.

14. The method according to claim 13, wherein said allocation of said data and said external data from said at least one external data source into data subsets is made on at least one of (i) a random basis and (ii) a statistically significant basis determined by at least one of an actuary and statistician.

15. The method according to claim 13, further comprising the step of using said training data subset to commence said step of creating said statistical model.

16. The method according to claim 15, wherein said step of using said training data subset to commence said step of creating said statistical model is effected using multivariate statistical methods including at least one of multiple regression, generalized linear modeling, clustering algorithms and neural network algorithms.

17. The method according to claim 13, further comprising the step of iteratively using said test data subset to evaluate the efficacy of and refine said statistical model during said step of creating said statistical model.

18. The method according to claim 13, further comprising the step of using said validation data subset to test said statistical model.

19. The method according to claim 18, wherein said validation data subset includes at least one record, and wherein said step of using said validation data subset to test said statistical model includes assigning a score to each record of said at least one record of said validation data subset, sorting said at least one record by said score into groupings of equal size, calculating a cumulative profitability ratio for each of said groupings using said working data, and calculating a ratio relativity for each of said groupings.

20. The method according to claim 19, further comprising the step of gauging said score generated for said selected licensed professional indicative of at least one of profitability and productivity using said statistical model against said ratio relativity for each of said groupings to yield a prediction as to at least one of profitability and productivity of said selected licensed professional.

21. A computerized method for determining the prospective profitability and productivity of a licensed insurance professional, the method comprising the steps of obtaining first data concerning a selected licensed insurance professional from at least one source of said first data, obtaining historical data concerning a plurality of licensed insurance professionals from at least one source of said historical data, identifying at least one external data source including variables predictive of at least one of profitability and productivity of said licensed insurance professionals, normalizing said historical data using actuarial transformations to generate working data, calculating at least one of a loss ratio, frequency and lapse rate associated with each of said plurality of licensed insurance professionals based on said working data, calculating at least one of a cumulative loss ratio, frequency and an average lapse rate associated with said external data source variables based on said working data, identifying statistical relationships between (i) said at least one of a cumulative loss ratio, frequency and an average lapse rate and (ii) said external data source variables, selecting individual ones of said external data source variables based on statistical

significance, creating a statistical model utilizing said selected ones of said external data source variables to yield an overall prediction of at least one of profitability and productivity of said licensed insurance professionals, and generating a score for said selected licensed insurance professional indicative of at least one of profitability and productivity using said statistical model.

22. The method according to claim 21, wherein individual ones of said external data source variables each have at least two values.

23. The method according to claim 21, wherein said at least one source of first data includes government insurance databases.

24. The method according to claim 21, wherein said first data includes at least one of name, address, social security number, license type and license term.

25. The method according to claim 21, wherein said at least one source of historical data includes at least one of government insurance databases, insurance industry organization databases and internal insurance company databases.

26. The method according to claim 21, wherein said historical data includes at least one of insurance premium, loss, commission, insured and in-force data.

27. The method according to claim 21, wherein said at least one external data source includes at least one of government databases and databases of independent data providers.

28. The method according to claim 21, wherein external data from said at least one external data source includes personal level information including at least one of income, education level, home owned or rented information, credit history and driving record information.

29. The method according to claim 21, wherein said external data source variables include at least one of geographic factors, policy characteristics, licensed insurance professional information and household level information.

30. The method according to claim 21, further comprising the step of storing said first data, said historical data and external data from said at least one external data source in a relational database.

31. The method according to claim 21, wherein said working data are associated with said at least one external data source to identify said external data source variables predictive of at least one of profitability and productivity of said licensed insurance professionals.

32. The method according to claim 21, wherein said step of normalizing said historical data using actuarial transformations to generate working data includes at least one of (i) calculating a loss ratio associated with a defined group of said licensed insurance professionals involved with property and casualty insurance, (ii) calculating frequency associated with a defined group of said licensed insurance professionals involved with property and casualty insurance, and (iii) calculating persistency associated with a defined group of said licensed insurance professionals involved with life insurance.

33. The method according to claim 32, wherein said actuarial transformations associated with said defined group of said licensed insurance professionals involved with property and casualty insurance are effected using premium manualization techniques.

34. The method according to claim 32, wherein said actuarial transformations associated with said defined group of said licensed insurance professionals involved with property and casualty insurance are adapted to compensate for long tail losses.

35. The method according to claim 32, wherein said step of calculating persistency is based on a thirteen month period.

36. The method according to claim 32, wherein said actuarial transformations associated with said defined group of said licensed insurance professionals involved with life insurance are effected using weighting techniques adapted to recognize persistency patterns along insurance product lines.

37. The method according to claim 21, wherein said step of calculating at least one of a cumulative loss ratio, frequency and an average lapse rate associated with said external data source variables based on said working data is effected for each of said licensed insurance professionals by insurance product line.

38. The method according to claim 21, wherein said step of selecting individual ones of said external data source variables based on statistical significance is performed by at least one of an actuary and statistician.

39. The method according to claim 21, further comprising the steps of examining said external data source variables for cross-correlation, and discarding at least one of said external data source variables from any set of cross-correlated external data source variables.

40. The method according to claim 21, wherein said step of creating a statistical model utilizing said selected ones of said external data source variables to yield an overall prediction of at least one of profitability and productivity of said licensed insurance professionals includes allocating said historical data and external data from said at least one external data source into data subsets including at least one of a training data subset, a test data subset and a validation data subset.

41. The method according to claim 40, wherein said allocation of said data and said external data from said at least one external data source into data subsets is made on at least one of (i) a random basis and (ii) a statistically significant basis determined by at least one of an actuary and statistician.

42. The method according to claim 40, further comprising the step of using said training data subset to commence said step of creating said statistical model.

43. The method according to claim 42, wherein said step of using said training data subset to commence said step of creating said statistical model is effected using multivariate statistical methods including at least one of multiple regression, generalized linear modeling, clustering algorithms and neural network algorithms.

44. The method according to claim 40, further comprising the step of iteratively using said test data subset to evaluate the efficacy of and refine said statistical model during said step of creating said statistical model.

45. The method according to claim 40, further comprising the step of using said validation data subset to test said statistical model.

46. The method according to claim 45, wherein said validation data subset includes at least one record, and wherein said step of using said validation data subset to test said statistical model includes assigning a score to each record of said at least one record of said validation data subset, sorting said at least one record by said score into groupings of equal size, calculating at least one of a cumulative loss ratio and average lapse rate for each of said groupings using said working data, and calculating at least one of a loss ratio relativity and lapse rate relativity for each of said groupings.

47. The method according to claim 40, further comprising the step of gauging said score generated for said selected licensed insurance professional indicative of at

least one of profitability and productivity using said statistical model against at least one of said loss ratio relativity and said lapse rate relativity for each of said groupings to yield a prediction as to at least one of profitability and productivity of said selected licensed insurance professional.

48. A system for determining the prospective profitability and productivity of a licensed professional, the system comprising means for storing first data concerning a selected licensed professional, historical data concerning a plurality of licensed professionals, and external data including variables predictive of at least one of profitability and productivity of said licensed professionals, means for normalizing said historical data using actuarial transformations to generate working data, means for calculating a profitability ratio associated with each of said plurality of licensed professionals based on said working data, means for calculating a cumulative ratio associated with said external data variables based on said working data, a statistical model utilizing selected ones of said external data variables having statistical significance based on statistical relationships between said cumulative ratio and said external data source variables, and means associated with said statistical model for generating a score for said selected licensed professional indicative of at least one of profitability and productivity.

49. The system according to claim 48, wherein individual ones of said external data variables each have at least two values.

50. The system according to claim 48, further comprising means for obtaining said first data from government databases.

51. The system according to claim 48, further comprising means for obtaining said historical data from at least one of government databases, industry organization databases and internal company databases.

52. The system according to claim 48, further comprising means for obtaining said external data from at least one of government databases and proprietary databases of independent data providers.

53. The system according to claim 48, wherein said means for storing said first data, historical data and external data is a relational database.

54. The system according to claim 48, further comprising means for associating said working data with at least one source of said external data to identify said external data variables predictive of at least one of profitability and productivity of said licensed professionals.

55. The system according to claim 48, further comprising means for discarding at least one of said external data variables from any set of cross-correlated external data variables.

56. The system according to claim 48, further comprising means for allocating said historical data and said external data into data subsets including at least one of a training data subset, a test data subset and a validation data subset.

57. The system according to claim 56, further comprising means associated with said training data subset for creating an initial statistical model.

58. The system according to claim 57, wherein said means associated with said training data subset for creating an initial statistical model are adapted to utilize multivariate statistical methods including at least one of multiple regression, generalized linear modeling, clustering algorithms and neural network algorithms.

59. The system according to claim 56, further comprising means associated with said test data subset for iteratively evaluating the efficacy of and refining said statistical model.

60. The system according to claim 56, further comprising means associated with said validation data subset for testing said statistical model.

61. The system according to claim 60, wherein said validation data subset includes at least one record, and said means associated with said validation data subset include means for assigning a score to each record of said at least one record of said validation data subset, means for sorting said at least one record by said score into groupings of equal size, means for calculating a cumulative profitability ratio for each of said groupings using said working data, and means for calculating a ratio relativity for each of said groupings.

62. The system according to claim 61, further comprising means for gauging said score generated for said selected licensed professional indicative of at least one of profitability and productivity using said statistical model against said ratio relativity for each of said groupings to yield a prediction as to at least one of profitability and productivity of said selected licensed professional.

63. A system for determining the prospective profitability and productivity of a licensed insurance professional, the system comprising means for storing first data concerning a selected licensed insurance professional, historical data concerning a plurality of licensed insurance professionals, and external data including variables predictive of at least one of profitability and productivity of said licensed insurance professionals, means for normalizing said historical data using actuarial transformations to generate working data, means for calculating at least one of a loss ratio, frequency and lapse rate associated with each of said plurality of licensed insurance professionals based on said working data, means for calculating at least one of a cumulative loss ratio, frequency and an average lapse rate associated with said external data variables based on said working data, a statistical model utilizing said selected ones of said external data variables having statistical significance based

on statistical relationships between (i) said at least one of a cumulative loss ratio, frequency and an average lapse rate and (ii) said external data variables, and means associated with said statistical model for generating a score for said selected licensed insurance professional indicative of at least one of profitability and productivity.

64. The system according to claim 63, wherein individual ones of said external data variables each have at least two values.

65. The system according to claim 63, further comprising means for obtaining said first data from government insurance databases.

66. The system according to claim 63, wherein said first data includes at least one of name, address, social security number, license type and license term.

67. The system according to claim 63, further comprising means for obtaining said historical data from at least one of government insurance databases, insurance industry organization databases and internal insurance company databases.

68. The system according to claim 63, wherein said historical data includes at least one of insurance premium, loss, commission, insured and in-force data.

69. The system according to claim 63, further comprising means for obtaining said external data from at least one of government databases and databases of independent data providers.

70. The system according to claim 63, wherein said external data includes personal level information including at least one of income, education level, home owned or rented information, credit history and driving record information.

71. The system according to claim 63, wherein said external data variables include at least one of geographic factors, policy characteristics, licensed insurance professional information and household level information.

72. The system according to claim 63, wherein said means for storing said first data, said historical data and said external data is a relational database.

73. The system according to claim 63, further comprising means for associating said working data with at least one source of said external data to identify said external data variables predictive of at least one of profitability and productivity of said licensed insurance professionals.

74. The system according to claim 63, wherein said means for normalizing said historical data using actuarial transformations to generate working data includes means for at least one of (i) calculating a loss ratio associated with a defined group of said licensed insurance professionals involved with property and casualty insurance, (ii) calculating frequency associated with a defined group of said licensed insurance professionals involved with property and casualty insurance, and (iii) calculating persistency associated with a defined group of said licensed insurance professionals involved with life insurance.

75. The system according to claim 74, wherein said actuarial transformations associated with said defined group of said licensed insurance professionals involved with property and casualty insurance are effected using means for applying premium manualization techniques.

76. The system according to claim 74, wherein said actuarial transformations associated with said defined group of said licensed insurance professionals involved with property and casualty insurance are effected using means adapted to compensate for long tail losses.

77. The system according to claim 74, wherein said persistency is based on a thirteen month period.

78. The system according to claim 74, wherein said actuarial transformations associated with said defined group of said licensed insurance professionals involved with life insurance are effected using means for applying weighting techniques adapted to recognize persistency patterns along insurance product lines.

79. The system according to claim 63, further comprising means for discarding at least one of said external data variables from any set of cross-correlated external data variables.

80. The system according to claim 63, further comprising means for allocating said historical data and said external data into data subsets including at least one of a training data subset, a test data subset and a validation data subset.

81. The system according to claim 80, further comprising means associated with said training data subset for creating an initial statistical model.

82. The system according to claim 81, wherein said means associated with said training data subset for creating an initial statistical model are adapted to utilize multivariate statistical methods including at least one of multiple regression, generalized linear modeling, clustering algorithms and neural network algorithms.

83. The system according to claim 80, further comprising means associated with said test data subset for iteratively evaluating the efficacy of and refining said statistical model.

84. The system according to claim 80, further comprising means associated with said validation data subset for testing said statistical model.

85. The system according to claim 84, wherein said validation data subset includes at least one record, and said means associated with said validation data subset for testing said statistical model include means for assigning a score to each record of said at

least one record of said validation data subset, means for sorting said at least one record by said score into groupings of equal size, means for calculating at least one of a cumulative loss ratio and average lapse rate for each of said groupings using said working data, and means for calculating at least one of a loss ratio relativity and lapse rate relativity for each of said groupings.

86. The system according to claim 80, further comprising means for gauging said score generated for said selected licensed insurance professional indicative of at least one of profitability and productivity using said statistical model against at least one of said loss ratio relativity and said lapse rate relativity for each of said groupings to yield a prediction as to at least one of profitability and productivity of said selected licensed insurance professional.